Due Dates:
Step 1: Tuesday Feb. 24, 2015.
Note: UNCG will be closed Sat. Mar. 7 to Sun. Mar. 15, 2015 (Spring break). Test 2 will be on Thursday Mar. 19, 2015.
Step 3: Complete implementation, demonstration and final report: Tuesday Apr. 14 to Friday Apr. 17, 2015.

In this project you will design and implement a database application. You will work in groups (teams). Each team will have three members. Each member should participate in ALL activities of the project: Design, implementation, and demonstration. The project is carried out in several main steps:

1. Conceptual design using the E-R model, Translation of the E-R model into the relational model.
2. Refinement of the design (into at least 3NF schemes, preferably BCNF or 4NF schemas).
3. Implementation: Creation of database tables, data entry, design and implementation of queries and transactions, and Web-based interface design.

Your final report should contain (1) The final ER design, (2) The final relational design, including listing of all tables (schemas), keys, and data dependencies, (3) Data (current at demo time), (4) Queries and application programs. (5) You should also indicate, for each member of the group, which parts/tasks were implemented by that member.

Each team will demonstrate their project online. All members of the team should be present at the time of demonstration.

Your system should be easy to use. I should be able to check your project by going to the home page of your system.

THE PROBLEM:
You will design and implement an online bookstore (called 671BOOKS). Your database system should keep track of available books (inventory), customer information (name, address, etc), customer orders and accounting, and status of orders.

Some of the transactions and queries for this system are listed below. Most of the transactions and queries must be password protected.
Customers’ Queries and Transactions

1. Search. The result of search should be a listing of books with relevant information such as authors, publisher, price, ...
   - Search by author’s name.
   - Search by “genre” (e.g., “science fiction”).
   - Multi-criteria search (e.g., author and year of publication).

2. Purchase. Customer selects a book (may be a book among the results of a search; or a book in the customer’s wish list) to buy. The system asks for information (customer name, address, credit-card number, etc...) and records the purchase.

3. Wish list. Customer can add a book to her/his wish list.


Administrators’ Transactions and queries

1. Enter information for a new book (including authors, publisher, publication year, genre, price and number of available copies).

2. Update information regarding an existing book (for example, increase the number of available copies when new copies are received).

3. Process a purchase (the number of available copies in the inventory should be decremented, the status of purchase changed to “processed”). If purchase was for a book in the wish list, the book should be removed from the wish list.

4. Information listing. For example
   - Complete list of purchases during a given period of time (given by start date and end date).
   - Total sales (dollar amount) for a given month and year.

Additional Transactions and queries

1. Statistical data: Best sellers; books that are not selling; etc...